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Savings in capital expenditures for feeder, trunking and provisioning are targeted as a result of the network investments. Reduced spending on feeder facilities represents 70 percent of the targeted capital savings. The broad deployment of fiber and related electronics will substantially eliminate further deployment of copper facilities for feeder reinforcement. The balance of the capital savings comes from the reduced need for trunking capital, from lower provisioning costs for high-growth services, such as DS-1s, and from other improvements in the distribution plant.

Id.

In short, the network investments that will allow the ILECs to offer broadband services to the majority of their customers would be (and are being) justified solely on the basis that they protect the ILECs' narrowband revenues.

Given these facts, it is clear that the ILECs' theoretical economics argument is nonsense. As Professor Willig explains (§§ 159-66), economists have long recognized that prices based on long run incremental costs best replicate competitive market conditions and incentives and give both the owners of those facilities and others that seek to use those facilities appropriate incentives to make efficient investments. This is true whether the facilities are "narrowband" or "broadband" Willig Dec. ¶ 160.

In fact, TELRIC cost models already reflect the investments necessary to provide DSL-based services. Both the Commission's Synthesis Model and cost models used by many state commissions already set loop rates assuming the existence of "clean loops" (*i.e.*, loops without bridge taps and load coils) and that fiber feeder is used on all loops over 18,000 feet. Willig Dec. ¶ 162. Thus, TELRIC rates already reflect the costs of a network that can support DSL-based service to *every* customer, and that even on the longest such loops bandwidth would generally be greater than in current ILEC offerings. *Id.*

TELRIC principles also permit the ILECs to recover the investment necessary to provide higher bandwidth services. For example, DSL-based service and its provisioning can be

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enhanced if longer loops use an architecture in which the copper segment is less than 18,000 feet. This can be accomplished by installing fiber in the “feeder” portion of the loop and by using data-capable DLC electronics in a remote terminal.

Quite obviously, TELRIC cannot be an obstacle to recovery of these costs to the extent that such investments pay for themselves through lower maintenance and capital expenses. SBC’s statements regarding Project Pronto cited above make clear that the “loop only” costs of fiber fed loops should be *less* than the cost for copper loops. Thus, the only additional costs of a DSL-capable NGDLC loop are the costs of the loop electronics necessary for data transmission. The ILECs have yet to show that these incremental costs are greater than the maintenance cost savings achieved from Project Pronto-like initiatives.

BellSouth, for its part, recently provided the Wall Street community with a thorough presentation that demonstrates that the incremental cost of upgrading its existing network to deliver DSL-based service is minimal because of the fiber investments already made to provide voice services more efficiently.⁵⁹ As BellSouth’s Chairman recently stated:

Some companies have suggested that, before DSL can be deployed, substantial investments need to be made in the network. I think the good news is for BellSouth, a large part of that investment has in fact already been made. . . .

The BellSouth network has been designed for many, many years [with] a very high complement of subscriber line carrier terminals, which extend the network out closer to the customer And the BellSouth remote terminals are literally everywhere. Today we have about 44,000 subscriber line carrier sites that serve the other 40 percent of our lines. Those customers are beyond the distance that DSL can serve without some help, but subscriber line carrier terminals bring those connections to within 12,000 feet of most of these customers.

⁵⁹ See Ralph de la Vega, *BellSouth Broadband: Taking the Lead* (Nov. 5, 2001) (available at http://media.corporate-ir.net/media_files/nys/bls/presentations/110501/delavega/index.htm) (deployment involves “cost effective expansion through utilization of embedded network”).

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So as we equip those subscriber line carrier sites for DSL, we enable those customers who are served by those remote terminals for high speed. We don't spend anything to put those subscriber line carrier sites out there, because they're already in place. But we do have to equip those terminals with DSLAMs, *and that is a fairly modest expense for us.*⁶⁰

But even if the necessary incremental investments were significant, TELRIC is sufficiently flexible to allow for recovery of these costs. Willig Dec. ¶¶ 164-66.⁶¹ To the extent that investments in DLC capable loops are riskier – due to cable competition or market risks – or to the extent that equipment becomes obsolete more quickly, that would result in higher rates of return and higher depreciation rates for the DSL-capable loops. *Id.* ¶¶ 164-65. CLECs who offer DSL-based services would thus pay the full economic cost of the facilities that they lease. *Id.* Thus, although TELRIC does not afford ILECs an “unbounded” return, it provides them with a return that is to reflect all the risks that ILECs face in operating under TELRIC and in today's market. And to the extent that an efficient broadband-capable loop infrastructure costs more to build than an efficient narrowband loop infrastructure, TELRIC-based loop prices for unbundled loops used by CLECs to provide broadband services would be higher than TELRIC-based loop prices for loops used to provide only voice grade services. *Id.* ¶¶ 164-66.

c. Section 706 cannot properly be invoked as a statutory basis for restricting unbundling.

The above analysis is thus a complete response to the Commission's inquiry “whether and how to carry out the advanced services mandate contained in § 706 of the 1996 Act as an

⁶⁰ See Duane Ackerman, Remarks at the Goldman Sachs Communicopia Conference (Oct. 3, 2001) (emphasis added).

⁶¹ Of course, given that the ILECs currently have nearly 90% of the market for DSL-based services, they will be able to recover the lion's share of their investments directly from their data subscribers.

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explicit factor in our unbundling analysis, as some parties have suggested.” *Notice* ¶ 21. Unbundling requirements *promote*, rather than retard, investment in advanced services facilities and therefore foster the deployment of those facilities and the provision of advanced services to consumers. Maintaining and strengthening unbundling requirements is therefore one of the best means to carry out the objectives of § 706. Conversely, weakening unbundling requirements would subvert those objectives.

Moreover, although “some parties have suggested” that the Commission should rely on § 706 to override a finding of “impairment,” that result would not only be misguided policy, but unlawful.

Section 706(a) directs the Commission to encourage deployment of advanced service capabilities by utilizing “price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.” *See* 47 U.S.C. § 157 (notes). Congress therefore understood that advanced services deployment would be *encouraged*, not discouraged, through the statutory mechanisms it had adopted to “promote competition in the local telecommunications market.” Section 251(c) is the most central of those mechanisms. In § 706, Congress directed the Commission to implement those “measures” with particular vigor in order to promote advanced services deployment. If the Commission does so, it will achieve § 706’s ends through § 706’s means. By contrast, it is not open to the Commission under § 706, or any other provision of the Act, to contradict Congress’ judgment and conclude for itself that *relaxing* the implementation of Congress’ market-opening measures would best promote Congress’ goals. “The FCC” is “bound, not only by the ultimate purposes Congress has selected, but by the means

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it has deemed appropriate, and prescribed, for the pursuit of those purposes.” See *MCI v. American Tel. & Tel. Co.*, 512 U.S. 218, 231 (1994).

That point is strongly underscored by § 706’s reference to “regulatory forbearance.” As the Commission has held, § 706(a)’s reference to “regulatory forbearance” refers to the Commission’s authority under § 10 of the Act to “forbear” from applying *some* of the Act’s requirements. *Advanced Services Order* ¶¶ 65-71. But § 10 expressly prohibits the Commission from forbearing from applying the provisions of § 251(c) until those provisions have been “fully implemented” – a precondition no one claims has yet been met. 47 U.S.C. § 160(d). Thus, while Congress believed that relaxing implementation of other provisions of the statute could be a permissible way in which to achieve the objectives of § 706 and other public policy goals, it denied the Commission any such power over § 251(c) by expressly exempting that subsection from the Commission’s forbearance authority.

For that very reason, when ILECs asked the Commission, in light of § 706, to “forbear” from applying the requirements of § 251(c) to the ILEC facilities used to provide advanced services, the Commission was compelled to reject that request as a matter of law – and it did so. The Commission specifically held that § 251(c) is a “cornerstone[] of the framework Congress established in the 1996 Act to open local markets to competition,” and that its “central importance” to the Act is reflected in the fact that it is one of only two provisions “that Congress carved out in limiting the Commission’s otherwise broad forbearance authority under Section 10.” *Advanced Services Order* ¶ 73. The Commission found it “unreasonable to conclude that Congress would have intended that section 706 allow the Commission to eviscerate those forbearance exclusions after having expressly singled out section[] 251(c) . . . for different treatment in section 10.” *Id.*

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This analysis is a complete answer to the question posed here. The Commission's own ruling precludes it from determining that the "at a minimum" reference in § 251(d)(2) – which relates solely to the Commission's decisions "for purposes of subsection (c)(3)," 47 U.S.C. § 251(d)(2) – somehow gives the Commission the power to grant the same type of relief it denied in 1998 by the verbal trick of recasting the analysis to make § 706 a "factor" supporting relaxation of unbundling requirements. That would simply be a patently impermissible end-run around § 10(d) – as the D.C. Circuit's decision in *ASCENT v. FCC*, 235 F.3d 662 (2001), establishes. In that case, the Commission denied that it was exercising prohibited "forbearance" authority when it relaxed application of § 251(c)'s mandatory requirements by defining ILEC advanced services affiliates as entities that are not "successors or assigns" of the ILEC, claiming it was merely "interpreting the statute rather than determining whether to forbear." *Id.* at 666. The Court found "powerful" the argument that the Commission had engaged in the equivalent of forbearance and that this was "a circumvention of the statutory scheme," and invalidated the Commission's action as an "unreasonable" "interpretation of the Act's structure." *Id.* at 666, 668.⁶² Any claim here that the Commission would be "interpreting" § 251(d)(2) by treating § 706 as a "factor" supporting reduced unbundling requirements for advanced services facilities would meet the same legal challenge, and the same outcome.

⁶² The Court further explained that it was immaterial whether or not the Commission's underlying premise was "economically sound." The decisive point was that it was "not Congress' premise," for "Congress did not treat advanced services differently from other telecommunications services." *ASCENT*, 235 F.3d at 668.

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C. Denying Access To UNEs On The Misguided Premise That Such Action Accelerates Facilities Deployment Would Cause Far-Reaching Harm To Consumers And Competition.

For all these reasons, restricting access to UNEs would not accelerate facilities deployment by either CLECs or by ILECs, and there is no legal or policy basis for overriding the “impair” test on such grounds. Most fundamentally, however, such a policy would cause great harm to the consumer interests the Act was designed to serve. The 1996 Act is, at last, beginning to lead to significant consumer benefits in those areas of the country where it is being fully implemented. The process it has begun will lead to substantially greater benefits in the near future – but only if it is permitted to continue. Restricting the availability of UNEs now would eliminate those benefits, cut short that process, and further entrench the ILECs’ monopolies.

That would certainly be the case for any policy that discontinued the availability of UNE-P. UNE-P enables multiple competitors to obtain essential monopoly facilities at cost-based rates, and to compete in the retail functions of pricing, packaging, and delivering telecommunications services to their customers. CLECs can design packages that will drive market prices closer to cost and put pressure on the ILECs’ prices. CLECs’ retail customer service operations can simultaneously place substantial non-price competitive pressure on the ILECs as well, forcing the ILECs to improve their own retail operations and customer responsiveness. UNE-P thus produces enormous consumer benefits that would not otherwise be available. *See Willig Dec. ¶¶ 75-82.*

That is abundantly confirmed by actual market experience. In the absence of UNE-P, there is no realistic prospect that AT&T would compete at all for residential customers in most areas. UNE-P, however, has enabled AT&T and other carriers to make statewide offers of competitive local service to residential customers that no cable company or other facilities-based

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provider could make today. AT&T's experience demonstrates that there is enormous consumer interest in such competitive alternatives to the incumbents' offerings; in every State in which AT&T has launched a major marketing campaign for local UNE-P based services, it has attracted significant numbers of customers. Huels Dec. ¶ 17. For example, AT&T has signed up more than a million customers in New York and Texas. *Id.* AT&T has also begun offering UNE-P service in Michigan and Georgia and is seeking other opportunities elsewhere. *Id.*

Moreover, contrary to the ILECs' rhetoric, this is "real" competition with "real" consumer benefits – as they well know. In New York, for example, AT&T has announced that it will freeze its prices through April 2003 for customers who sign up for its unlimited local calling plan within the first two months of the offer. *Id.* ¶ 54. AT&T has done this in the teeth of an announcement by Verizon that Verizon will be *increasing* its own local service rates. *Id.* Such alternatives would be eliminated if the ILECs' proposals to eliminate UNE-P were adopted here. *See generally* NARUC UNE-P Resolution (adopted Nov. 14, 2001).

Furthermore, in order to attract customers away from the incumbent, AT&T has offered substantially more advantageous packages in other respects as well – including free CPE (such as phones, caller ID boxes, and DSL installation kits), free minutes, prepaid calling cards, and similar features – and the ILECs, for the first time, are being compelled to offer various inducements in response. *See* Huels Dec. ¶ 52. Although AT&T's offer remains more favorable, the fundamental point is that the ILECs would never have improved their terms in these ways in the absence of UNE competition and will not maintain those terms if UNE

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competition diminishes. Customers of all carriers have benefited immensely from this race to attract them.⁶³

Eliminating UNE-P would not only deprive consumers of those immediate dividends of competition; it would also destroy the essential bridge to more facilities-based competition. UNE-P competition enhances CLECs' ability to transition to facilities-based service. It lowers barriers to entry and enables them to enter the market, to begin to win customers that would justify their own facilities, and to gain valuable information on customer demand and traffic flow. Willig Dec. ¶¶ 78-82. For example, as AT&T has explained, *see supra* Part II(A), UNE-P has also become an essential customer-acquisition mechanism in the business services markets that is a necessary step toward subsequent switch-based competition. It is further a critical component in the provision of facilities-based residential services through combinations of ILEC facilities and AT&T's packet switched network. Removing that foundational vehicle would foreclose the opportunity for evolution to facilities-based solutions that promise even greater consumer benefits in the future.⁶⁴

⁶³ Similarly, several customers who switched to AT&T's local service in Michigan have reported to AT&T that they received "winback" letters from Ameritech offering them more attractive plans than those Ameritech previously offered. *See* Huels Dec. ¶ 57.

⁶⁴ For example, General Communication Inc. ("GCI"), like AT&T, reports that it uses UNE-P and transitions to UNE-L wherever possible. It has entered the local market in Alaska and, after five years, now has "approximately 38% of the Anchorage retail local exchange market, serving business and residential customers in approximately the same proportions as the incumbent LEC." *See* GCI *Ex Parte*, CC Docket 96-98 (March 7, 2002). Similar to AT&T's experience in New York, the incumbent LEC recently was granted an interim 24% residential rate increase by the state commission – but GCI is not raising its rates. Those consumer benefits would be lost if access to UNE-P were curtailed. *Id.* at 2.

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The proposals to withhold or limit access to UNEs that relate to broadband services would have a similar dramatic and negative impact on competition. The local loop remains a “quintessential bottleneck facility for competing telecommunications carriers.”⁶⁵ And because of the natural monopoly character of most local loops, unless these facilities can be leased by competitors on the same economic terms as the incumbents provide them for their own use, CLECs will have absolutely no ability to offer broadband services. Thus, denying CLECs access to UNEs needed to offer broadband services based on their own packet switching investment means that CLECs will have no incentive to invest in such facilities and that competition for DSL-based services would diminish.

It is no answer to disparage this lost competition as merely “intramodal.” This competition would be “intramodal” only in the sense that competitors all share the loop infrastructure, but granting CLECs access to unbundled loops to provide broadband services permits competition and service differentiation based on the packet switches and other electronics used to provide broadband services, as well as competition in the provisioning and the marketing of broadband services. Willig Dec. ¶¶ 77, 154. For example, as noted above, AT&T plans to make a new voice/data offer that will include DSL-based Internet access and two “derived” voice lines provided over the *high frequency* portion of the loop. See Huels Dec. ¶ 64 & n.18. The derived lines will have all of the characteristics of, and to the consumer be indistinguishable from, ordinary voice lines provided by the ILEC today. *Id.* Such innovative “intramodal” competition would offer great consumer benefits even if it were certain that all of

⁶⁵ FCC Brief for Respondents, *WorldCom, Inc. v. FCC*, No. 00-1002, at 22 (D.C. Cir.) (filed Nov. 2, 2000) (“*FCC WorldCom Brief*”).

the possible forms of intermodal broadband competition would be effective to constrain the ILECs' ability to exercise power in the retail market for advanced services. Willig Dec. ¶¶ 154, 187-88.

By contrast, withholding or limiting access to UNEs for the provision of broadband services could only harm consumers – as recent events make plain. Analysts uniformly agree that the recent demise of many of their data LEC competitors has now freed the ILECs from a competitive constraint that previously forced them to keep DSL prices low and aggressively to market the service.⁶⁶ As carrier after carrier has stumbled or fallen, the RBOCs have responded with slower DSL technology deployments and higher prices. Willig BB LEC Dec. ¶¶ 97-99, 102-08. *See also* Robert E. Hall and William H. Lehr, *Promoting Broadband Investment and Avoiding Monopoly* 8 (Jan. 21, 2002) (“Recent disappointments in DSL are the result of the collapse of many of the new rivals, the subsequently higher prices charged by Bells once they no longer face competition, and because of the poor quality of service offered by the Bells which may have turned many would-be consumers away.”).

⁶⁶ *See* RHK, Inc., *Access Network Systems: North America – DSL*, 1 (Aug. 2001) (“*RHK Access Network Report*”) (“the lack of meaningful competition from the CLECs ... will provide little impetus for the ILECs to drive DSL expansion at a faster rate”); Broadband Intelligence, Inc., *Competitive Analysis of DSL and Cable Modems: Quarterly Report Analysis – Q3 2001* (2001) (“*Broadband Intelligence Report*”) (“[T]he first half of this year witnessed a major shakeout among DSL wholesalers and independent ISPs. In its wake came a reversal of last year’s downward pricing pressure.”); IDC, *US DSL Market Shares by Vendor, 1H01* (Aug. 2001) (“Now that upstart competitors, such as defunct NorthPoint Communications, no longer threaten the ILECs, the race for DSL subscribers has slowed The ILECs now dominate the US DSL market, and with a dearth of competition, the ILECs no longer have an incentive to aggressively market and deploy DSL service.”); Salomon Smith Barney, *Communications Components*, 2 (Nov. 23, 2001) (“Perhaps most importantly, the fall of the competitive local exchange carriers (CLECs) has given the ILECs room to retire to ‘Bell Standard Time’ after years of trying to move in sync with ‘Internet Time’. The result has been lower than expected DSL rollout rates in the US. In contrast, the worldwide ADSL sky has not fallen. Deployment has gone much more smoothly in several regions such as South Korea, Japan, and most of Europe.”).

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And based on the evidence to date, there is no reason to assume that there is now effective *intermodal* competition or that such competition will develop soon. Willig Dec. ¶ 189. For starters, there is almost no intermodal competition for small business customers. “[C]able doesn’t really compete in the small business market;”⁶⁷ rather, for those customers “[i]t’s really DSL’s game to win or lose.”⁶⁸ Analysts uniformly predict that cable will not be a serious competitor in the small business markets.⁶⁹

Even for residential customers, broadband deployment “is not uniform across the nation.” *Second Section 706 Report* ¶ 1 2000. About 40% of all U.S. zip codes have only a single high-speed service provider, or no high-speed service provider at all. *See Third Section 706 Report*, Appendix C, Table 9. And in some residential areas, cable service is not available to anyone. *See id.* Moreover, “publicly available information indicates that cable systems capable of

⁶⁷ *See* Communications Daily (Aug. 2, 2000) (quoting president of Broadband Intelligence).

⁶⁸ *Id.*; *see also* Communications Daily (Jan. 31, 2002) (reporting that AT&T’s cable plant does not extend to businesses); Communications Daily (Jan. 18, 2002) (reporting that Kansas Corporation Commission refused to reconsider its denial of Southwestern Bell Telephone’s petition for rate deregulation of its T-1 high-speed digital service and primary rate ISDN service as fully competitive); *compare* Cahners In-Stat Group, *Despite Service Provider Pratfalls, Cable Modem Subscriber Growth Remains Robust*, at 19 (Dec. 1, 2001) (only 370,000 cable subscriptions by North American businesses) *with* Cahners In-Stat Group, *U.S. Residential DSL Continues to Grow Despite Market Turmoil*, at 38 (Oct. 1, 2001) (1,035,225 DSL subscriptions by U.S. businesses).

⁶⁹ As Cahners In-Stat Group explains, cable providers’ current “lack of presence in the business market will limit cable modem deployments in the long run.” *Id.* at 31. As a result, “[c]able modem service penetration of businesses will remain modest for the next five years. In North America today, businesses only account for 5% of total subscribers. By 2005, this number will rise to only 10% of total subscribers.” Cahners In-Stat Group, *Despite Service Provider Pratfalls, Cable Modem Subscriber Growth Remains Robust*, at 1 (Dec. 1, 2001); *see also id.* at 12 (“[B]usiness customers in the United States predictably prefer digital subscriber line and T-1 services to fulfill their broadband communications needs”).

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providing cable modem service tend to be located in the most densely populated areas, especially in the East, the Midwest, and on the West Coast,” and that cable modem service is available to only 70% of U.S. homes. *Id.* ¶ 46; *see also id.* ¶ 35 (“Our data suggest that there is a great disparity in high-speed subscribership at different population densities”); *id.* ¶ 109 (“[T]here continues to be a significant disparity in access to advanced services between those living in rural population centers and those living in sparsely-populated outlying areas.”). Consequently, many consumers simply do not have a cable choice at this time. Nor have wireless or satellite services yet filled the gap. High-speed wireless services are today limited to a small subset of the most urban areas, and leading providers have recently scaled back their entry plans.⁷⁰ And the high-speed satellite services that have recently been rolled out have experienced technical problems, and are only beginning to receive consumer acceptance.⁷¹

Worse yet, the elimination of the broadband unbundling obligation sought by the ILECs would also undermine local *voice* competition. Willig Dec. ¶¶ 183-88. As the Commission has recognized, incumbent LECs could use their control over the local loop to “perpetuate their monopolistic dominance of existing” voice markets. *FCC WorldCom Brief* at 22. For example, eliminating broadband unbundling obligations would kill AT&T’s ambitious new voice/data

⁷⁰ See Cahners In-Stat Group, *U.S. Residential DSL Continues to Grow Despite Turmoil*, at 26-27 (Oct. 2001); Eric Knorr, *Mobile Web vs. reality*, *MIT Technology Review* (June 1, 2001) (“Stray beyond urban areas, furthermore, and it’s hard to imagine a nanocell on every fifth fence post.”); *see also* Robert E. Hall and William H. Lehr, *Promoting Broadband Investment and Avoiding Monopoly*, at 9 (describing market in each area as limited to an RBOC and a cable provider); *Competitive Analysis of DSL and Cable Modems, Broadband Intelligence*, at 1 (Q3 2001) (same).

⁷¹ See Cahners In-Stat Group, *U.S. Residential DSL Continues to Grow Despite Turmoil*, at 27 (Oct. 2001); The Yankee Group, *Digital Broadcast Satellite: Market Maturation Underscores New Challenges* 7-8 (Dec. 2001).

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offering in its infancy. As described above, this innovative offering would provide substantial competition to existing incumbent LEC offerings, but cannot be rolled out if AT&T is denied access to “unified” ILEC loops. See Huels Dec. ¶ 68.

Moreover, even where voice services are offered over the low frequency part of the loop, the emerging trend toward the bundling of DSL-based services and voice services would put CLECs at an enormous competitive disadvantage in providing voice services if they cannot also offer data services in combination with voice services. Willig Dec. ¶¶ 185-86. ILECs already offer bundled packages that include both local phone service plus DSL-based service, and the use of such packages by ILECs will only become more commonplace.⁷² “Providers are using bundles to expand control over the communications value chain and capture share of the higher value customers.”⁷³ Within the industry, it is widely believed that a bundled package is “a ‘stickier’ offering that is likely to remain in place in the face of competition.”⁷⁴ Qwest’s studies have shown that a bundle including DSL-based service reduces churn by a factor of four.⁷⁵

For these reasons, unless a CLEC has the ability to offer the same voice/data bundle as the ILEC it will be increasingly unable to compete. Willig Dec. ¶ 186. This is particularly true given the fact that the ILECs have now begun to require customers to subscribe to their voice

⁷² In fact, many ILEC DSL offers require the customer also to use the ILEC’s voice service.

⁷³ The Yankee Group, *Assessing the U.S. Residential Communications Landscape: New Strategies, New Opportunities*, 3 (Nov. 14, 2001).

⁷⁴ Raymond James, *Qwest Communications Intl.*, at 20 (Dec. 10, 2001) (“*James Qwest Report*”).

⁷⁵ Dresdner Kleinwort Wassestein Research, *Qwest Communications*, 30 (Nov. 12, 2001).

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service as a condition of obtaining DSL-based service.⁷⁶ Thus, CLECs will be effectively walled off from serving such customers unless they too can offer a comparable voice/data package.

Further, providing both voice and DSL-based services over the same ILEC-owned loop may be the best, or only, means of profitable entry into local markets in many areas of the country, and many broadband customers may place a substantial value on obtaining broadband and voice services from the same provider.⁷⁷ Given the high cost of using ILEC bottleneck facilities, local entry may not be viable *at all* unless entrants have the same ability as the incumbents to offer voice and data over a single line and spread costs over multiple services. Willig Dec. ¶¶ 187-88; Huels Dec. ¶¶ 68, 71. The Commission has correctly recognized that “lack of access to the high frequency portion of the local loop would materially raise competitive LECs’ cost of providing DSL-based service to residential and small business users, delaying broad facilities-based market entry, and materially limiting the scope and quality of competitors’ service offerings.” *Line Sharing Order* ¶ 25. Industry analysts agree:

DSL carriers must have the ability to bundle services to offer the cost-cutting advantages of having all products – data, voice, and Internet access – over a single copper line. A carrier’s success will ultimately be determined by its ability to deliver local, long distance, and Internet access over the same pipe.⁷⁸

Goldman Sachs Investment Research Report, *The Race to Build the Broadband Kingdom*, 26 (Aug. 12, 1999).

⁷⁶ See, e.g., Order Resolving Arbitration Issues, Case No. 01-C-0095, at 68 (July 31, 2001).

⁷⁷ *Id.*

⁷⁸ Goldman Sachs Investment Research Report, *The Race to Build the Broadband Kingdom*, 26 (Aug. 12, 1999) (“*Goldman Sachs Report*”).

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In short, the anti-unbundling policies that are now being urged upon the Commission would have serious anti-competitive consequences in all telecommunications markets and would be an extraordinarily destructive path for the Commission to pursue.

III. MOST OF THE SUGGESTIONS FOR GREATER “GRANULARITY” WOULD RESULT IN DENYING ACCESS TO UNES IN SITUATIONS IN WHICH CLECS WOULD BE “IMPAIRED,” RENDER THE UNE REGIME FAR MORE REGULATORY, INCREASE LITIGATION AND GAMESMANSHIP, AND DISTORT MARKET DECISIONS.

The other central theme of the *Notice* is whether the Commission could engage in a more “sophisticated” and “refined” analysis if it defined UNEs with greater “granularity.” *See Notice* ¶¶ 34-46, 51, 62. In particular, the *Notice* suggests that the Commission might establish restrictions on the availability of UNEs based on: (1) the services they would be used to offer, *id.* ¶¶ 36-39; (2) the geographic location of the customer, *id.* ¶ 39; (3) the capacity level of the underlying facilities, *id.* ¶ 41; (4) the type of customer that can be served by a UNE, *id.* ¶¶ 42-44; and (5) whether the facilities are “new,” *id.* ¶¶ 24, 50. In addition, the *Notice* asks (¶¶ 45-46) for comment on the propriety of using “triggers” to determine the availability of UNEs in place of a full-blown analysis of whether a network facility is “availabl[e] . . . outside the network” of the incumbent. *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 392 (1999).

The Commission should, of course, employ as “sophisticated” and “refined” an analysis as it can in attempting to identify whether a CLEC would be impaired without access to a particular ILEC network facility. The analysis of the individual elements provided below does precisely that. It addresses the need for particular UNEs not through broadbrush statistics about total national deployment, or hypothetical models based on simplistic and unreal assumptions – the principal bases for the ILECs’ claims in past proceedings. Rather, it examines the real-world economic and operational considerations that actually drive deployment decisions in the market.

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The critical question with respect to the *Notice*'s proposals for greater granularity is whether the "considerations" proposed in the *Notice* would, in fact, identify more precisely the situations in which CLECs are impaired. Thus, the restrictions proposed in the *Notice* must be judged according to how well they account for the factors that determine impairment – *i.e.*, "(1) the costs incurred using alternatives to the incumbent's network; (2) delays caused by use of alternative facilities; (3) material degradation in service quality; (4) the ability of a requesting carrier to serve customers ubiquitously using its own facilities or those acquired from third-party suppliers; and (5) the impact that self provisioning a network or obtaining it from a third-party supplier may have on network operations." *Notice* ¶ 8.

For the most part, the "more granular" proposals in the *Notice* are exceptionally poor proxies for the factors that determine "impairment" because they do not, and cannot, address the particular considerations that create the "impairment" for individual network elements. Thus, for example, "granularity" requires more than the simple recognition that it is theoretically feasible for CLECs to self-provide high capacity loops to some high volume customers in some buildings in dense central business districts. Rather, a sophisticated and refined analysis must also consider that the practical ability to provision such loops exists only in the exceptional cases where there are no right of way problems, and no building access problems, and a customer is willing to make commitments that will continue to hold during the substantial period it takes to construct a loop. Willig Dec. ¶¶ 128, 133-35. The only "granular" test that could account for these impediments would be one that considered the issue on a loop-by-loop basis – an obvious impracticality. Similarly, it makes sense for CLECs to self-provide transport facilities only on relatively exceptional routes where substantial amounts of traffic can be aggregated, and no rights of way issues, collocation difficulties, or other real-world constraints preclude the

competitor from provisioning transport on a specific route. Even extremely granular federal regulations will be unable to capture such distinctions. *Id.* ¶ 136. With respect to switching, if EELs are not made available then collocation costs will often preclude using previously-installed switches even in dense areas of the largest cities, and even if EELs are made available, CLECs will still be impaired if they cannot obtain unbundled switching for any voice grade loops that require hot cuts or DLC configurations. *Id.* ¶¶ 137-42.

The reality is that there is no generic set of conditions today – capable of being reduced to a rule – that defines circumstances in which CLECs are efficiently providing local service to any class of customers using loops, transport, or switching obtained from non-ILEC sources. The factors that determine whether CLECs will be impaired without access to those facilities are too multifaceted, and too specific to individual circumstances, to be defined on a categorical basis by the Commission. Any attempt to design such a regulation, therefore, will inevitably result in depriving CLECs of access to UNEs in circumstances in which they would thereby be “impaired.” *Id.* ¶¶ 128-29.

Furthermore, even if that were not the case, a sophisticated and refined analysis must also recognize that attempting to identify impairment in a more granular way has not only potential benefits but significant costs as well. The *Notice*, however, pays scant attention to the considerable costs of attempting a more granular impairment analysis. Any attempt to limit the general availability of a UNE – whether it be by the use of the facility, the nature of the customer served by the facility, or the status of the requesting carrier – places the Commission in the role of setting an industrial policy for the telecommunications industry, and involves drawing fine lines to establish borders between permissible and impermissible circumstances in which UNEs may be used. Each time such a border is established, the Commission is forced to engage in an

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ultimately arbitrary line-drawing exercise that (1) encourages regulatory gamesmanship as each carrier argues for a line that will include maximum availability for itself and minimum availability for its competitors; (2) requires carriers that wish to use UNEs to gather and produce information that may not be available to them to demonstrate their eligibility; (3) fosters litigation over whether particular scenarios are inside or outside the border, during which time access to the UNE, even if justified, would likely be withheld; and (4) encourages both requesting carriers and ILECs to design their networks, and formulate their entry plans in order to maximize the likelihood that they will fall within the lines the Commission has drawn, rather than on the basis of marketplace incentives and sound engineering principles.

As the Commission recognized in the *UNE Remand Order*, none of the preceding results is deregulatory and none advances the intent of the Act. To the contrary, in explaining, for example, why it would be contrary to the “goals of the Act” to seek to identify the few point-to-point routes where it might be possible for CLECs to self-deploy fiber (and therefore eliminate unbundling obligations for those routes), the Commission concluded that these costs could inhibit the development of local competition:

We recognize that requiring incumbent LECs to unbundle dedicated transport may be marginally overinclusive because of the presence of some alternative fiber along selected point-to-point routes in dense markets. We believe, however, that the benefits of uniform transport unbundling outweigh the costs of creating a patchwork regime in which incumbent LECs would likely seek to litigate its transport unbundling obligation on particular point-to-point routes where transport alternatives are arguably available. As we stated above, unbundling requirements that provide uniformity and certainty to the market will allow new entrants and fledgling competitors to implement national and regional business plans and attract capital investment. Litigation over the incumbents’ unbundling obligations requires the parties to these agreements and the state commissions that approve them to expend vast amounts of time and resources and would impede the development of competition.

UNE Remand Order ¶ 366.

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Even seemingly simple limits on the ways in which CLECs can use UNEs have resulted in considerable gamesmanship by the ILECs, and misconstructions of those limits by authorities, that have impeded or delayed competitive entry. Therefore, before adopting any additional “granular” restriction, the Commission should ensure that (1) it is certain that the restriction by its terms does not exclude ILECs from unbundling obligations in circumstances in which CLECs would in fact be “impaired,” and (2) even if the terms of the restriction satisfy that standard, those terms are also not subject to manipulation and further litigation by incumbents seeking to resist unbundling. Few granular restrictions could satisfy that standard. *See* Willig Dec. ¶¶ 133-50.

For example, in the *UNE Remand Order* (¶ 278), the Commission imposed a three-line limit on unbundled switching in certain areas – *i.e.*, a CLEC could use unbundled switching only to serve customers that ordered three or fewer lines. As shown below in Part IV(C), that rule did not remotely separate situations in which there would be no impairment from situations in which there would be impairment; rather, it was grossly underinclusive based on the impairment that CLECs actually faced. Moreover, and of particular relevance here, although the three-line limit was outwardly a bright line rule, the ILECs quickly found a way improperly to exploit the limitation beyond even its reasonably intended scope. In particular, several ILECs have claimed that *all* the lines used by a customer at *all* locations within a LATA should be aggregated for purposes of determining the CLECs entitlement to unbundled switching. *See, e.g.*, AT&T Virginia Section 252 Arbitration Post-Hearing Brief, CC Docket 00-251, Issue III-9 (filed Nov. 16, 2001) (citing and summarizing Verizon testimony). Thus, under this interpretation, a CLEC could not use unbundled switching to serve a business with four locations in a LATA even if each of those locations only used a single telephone line. To date, the ILECs have convinced

state commissions in Florida and Georgia to adopt this tortured reading of the switching carve out.⁷⁹

The ILECs' interpretation of the Commission's carve out rule clearly contravenes the logic of, and intent behind, that rule.⁸⁰ The critical point, however, is that any time the Commission draws a "granular" distinction as to what types of customers may be served with a UNE, the ILECs have the same incentive and ability to advance creative and aggressive interpretations of the line the Commission has drawn, claim that CLECs have not established their eligibility under that interpretation, and force CLECs to litigate their entitlement to UNEs. Moreover, regardless of whether the ILECs' position is incorrect, they may well persuade at least some of the many state commissions or courts before whom the question is litigated to adopt

⁷⁹ See Order No. PSC-01-1402-FOF-TP, *Petition by AT&T Communications of the Southern States, Inc. d/b/a AT&T for Arbitration of Certain Terms and Conditions of a Proposed Agreement with BellSouth Telecommunications, Inc. Pursuant to 47 U.S.C. Section 252*, Docket No. 00731-TP (Fl. PSC June 28, 2001); Order, *Petition of AT&T Communications of the Southern States, Inc. and Teleport Communications of Atlanta, Inc. for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. Under the Telecommunications Act of 1996*, Docket No. 11853-U, at 8 (Ga. PSC Apr. 24, 2001).

⁸⁰ Customer location(s), not customer identity, was the focus in the Commission's crafting of the current three-line exception. The Commission sought "to adopt a rule that serves as a reasonable proxy for when competitors are indeed impaired in their ability to provide services they seek to offer." *UNE Remand Order* ¶ 276. The restrictions it described first narrowed the geography to the localities where competitive switches were most likely to exist. Only then did the Commission's "impairment" analysis consider market segments: "[W]e now consider whether, within these geographic areas, market facts demonstrate that requesting carriers are not impaired without access to local circuit switching for discrete market segments or customer classes." *Id.* ¶ 290. But at no point of its impairment analysis did the Commission consider aggregations of a customer's locations in order to reach the three-line limit. Indeed, doing so would be contrary to the very purpose of the three-line exception, which was based on the Commission's determination that CLECs can self-provide switching to mid- and large-sized business in dense urban areas. *Id.* ¶¶ 279-92. Clearly, a multi-location business with individual offices that each order three or fewer lines is no more capable of being served through self-provided CLEC facilities than any other customer that orders three or fewer lines.

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their position (as has regrettably been the case with the three-line limit). Indeed, the ILECs understand that, even regardless of the ultimate outcome of many of these disputes, the precarious financial condition of their competitors enables them to discourage entry entirely merely by “running out the clock” (or making clear that they will do so).

The Commission’s nearly two-year old “interim” rules restricting access to loop and transport combinations provide an even starker case study of the adverse consequences of imposing artificial regulatory restrictions on the services that UNEs can be used to provide. *See* Willig Dec. ¶ 148; Leshner-Frontera Dec. ¶¶ 70-72.⁸¹ In its *Supplemental Order Clarification*, the Commission held that CLECs can obtain combined loop and transport UNEs (also called “EELs”) only to the extent that they demonstrate that they would use the facilities to provide substantial amounts of “local” traffic (as opposed to special access services in connection with long distance offerings). However, rather than allow CLECs simply to certify that they were using a special access circuit to provide substantial amounts of local traffic, the Commission adopted complex “safe harbor” procedures that require a CLEC to provide certain data that the Commission determined would demonstrate that they were using the UNEs properly. *Supplemental Order Clarification* ¶¶ 21-24. And to address ILEC “concerns” that a CLEC

⁸¹ The Commission extended the initial use restriction imposed in the *Supplemental Order* on the ground that it needed to investigate further whether CLECs are impaired without access to loop and transport UNEs in providing special access services. *Supplemental Order Clarification* ¶ 16. However, as explained below, that inquiry makes no sense because, by definition, if a network element is unavailable outside the incumbent’s network, CLECs have no alternative but to use the incumbent’s network element regardless of which service they wish to use that network element to provide. The so-called “interim” rule has now been in effect for over two years, during which time the ILECs have been able to charge supracompetitive access rates instead of cost-base UNE rates, and thus to earn windfall profits at the expense of consumers.

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might obtain an EEL by providing local service and then also use that facility to serve special access customers, the Commission banned “co-mingling.” *Id.* ¶ 28.

In tandem, these restrictions have made it effectively impossible for CLECs to gain access to loop-transport UNEs, even when they are seeking to use those UNEs to provide substantial amounts of local services to customers.⁸² The “safe harbors” depend on a burdensome, circuit-by-circuit certification process that requires a CLEC to measure the total amount of the customer’s local traffic, the percentage of channels on a given circuit that carry local (as opposed to access) traffic, and the total amount of switched and access traffic traveling across each circuit. This system is inherently unworkable because CLECs’ systems – including AT&T’s – are not built to provide the kind of data necessary to support such record keeping requirements.⁸³ As a result, a carrier’s ability to comply with the certification requirement depends on obtaining sensitive information from the customer – *i.e.*, information that the customer may not even maintain and, in all events, usually would not wish to disclose.⁸⁴ Nor could the existing measurement systems be modified or new ones deployed in an economical manner so as to make such measurements possible.⁸⁵ The CLEC will therefore generally be unable to provide the information necessary to demonstrate its eligibility, or may need to antagonize its customers or raise its customers’ costs in order to obtain that information.

⁸² See generally Comments of AT&T Corp. on Use of Unbundled Network Elements to Provide Exchange Access Services, CC Docket No. 96-98, at 18-23 (filed Apr. 5, 2001) (“AT&T Use Restriction Comments”).

⁸³ See Carroll-Rhodes Use Restriction Dec. ¶¶ 11, 13.

⁸⁴ See *id.* ¶¶ 12, 15.

⁸⁵ See *id.* ¶ 20.

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The Commission acknowledged that it could not fashion rules specific enough to cover all of the circumstances in which conversion of access circuits to UNEs would be permissible, and it stated that a “requesting carrier may always petition the Commission for a waiver of the safe harbor requirements” in appropriate cases. *Supplemental Order Clarification* ¶ 23. Since then, there have already been two substantial waiver proceedings, involving extensive comments by numerous parties. *See* WorldCom Petition for Waiver of Supplemental Order Clarification, CC Docket No. 96-98 (filed Sep. 12, 2000) (“WorldCom Petition for Waiver”); Petition of ITC DeltaCom Communications, Inc. for Waiver of Supplemental Order Clarification, CC Docket No. 96-98 (filed Aug. 16, 2001). In each case, the petitioners demonstrated that they were unable to convert existing special access circuits to UNEs despite the fact that these circuits carried predominantly local traffic. To date, the Commission has not acted on either petition and these carriers still are denied access to loop and transport UNEs despite providing substantial amounts of local telephone services. Even more fundamentally, those proceedings vividly confirm that such case-by-case waiver procedures are inherently time consuming and burdensome, impose a substantial drag on competitive entry, and are inconsistent with the deregulatory thrust of the Act. Their theoretical availability cannot redeem a fundamentally flawed restriction.

Predictably, the ILECs have used disputes regarding the contours of the safe harbors as a way of raising rivals’ costs and delaying entry. As demonstrated in the Use Restriction Proceeding, the ILECs have effectively thwarted conversion of any circuits to UNEs by routinely insisting on “pre-auditing” all CLEC conversion orders. As Focal describes, the ILECs “currently pre-audit or ‘scrub’ CLEC EEL conversion orders to insure that the lists contain only circuits with ‘significantly local traffic’” and “also ‘scrub’ orders to ensure that CLECs are not

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attempting to co-mingle EELs with special access circuits.”⁸⁶ The ILECs “have engaged in lots of ‘scrubbing’ but very little converting.”⁸⁷ The complexity of the safe harbor tests makes it almost impossible for competitive LECs to survive such “pre-audits.” As a result, the ILECs have converted almost no circuits to UNEs, even those used to provide a significant amount of local traffic.⁸⁸ Thus, the answer to the *Notice*’s question of whether the “safe harbors appropriately target competitive LEC impairment to local exchange service,” *Notice* ¶ 71, is a resounding “no.”

Equally important, the current use restrictions incorporate an anticompetitive ban on the “co-mingling” of UNE and access traffic on the same facility. *See Net2000 Complaint Order* ¶¶ 28-30 (holding that Commission’s current rules absolutely ban co-mingling and refusing to consider policy arguments that ban should be modified). The co-mingling ban effectively requires CLECs to establish two parallel networks – one for local traffic and one for access traffic. Indeed, as AT&T explained in the Use Restriction Proceeding, the Commission’s policy

⁸⁶ Comments of Focal Communications Corp., CC Docket No. 96-98, at 4 (filed Apr. 5, 2001) (“Focal Use Restriction Comments”).

⁸⁷ *Id.*; *see also* Comments of the Association for Local Telecommunications Services, CC Docket No. 96-98, at 10 (filed Apr. 5, 2001) (“ALTS Use Restriction Comments”).

⁸⁸ *See* Focal Use Restriction Comments at 4 (“Focal has not yet been able to convert a single order”); *see also* WorldCom Comments, CC Docket No. 96-98, at 37 (filed Apr. 6, 2001) (“WorldCom Use Restriction Comments”); Comments of the Competitive Telecommunications Association, CC Docket No. 96-98, at 14-17 (filed Apr. 5, 2001) (“CompTel Use Restriction Comments”); Comments of Global Crossing North America, Inc., CC Docket No. 96-98, at 13 (filed Apr. 4, 2001) (“Global Crossing Use Restriction Comments”). The arbitrariness of the safe harbors is compounded by the fact that, at least in theory, individual circuits can drift in and out of compliance with the safe harbor tests over time (by virtue of changes in customer calling patterns, over which the carrier has no control), which would subject the CLEC to the possibility of penalties “in the form of back-billed special access rates” or even “interruption in service.” CompTel Use Restriction Comments at 16.

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on co-mingling – like its “safe harbors” – is so onerous that it effectively prevents CLECs from converting access circuits to UNEs even when the CLEC is in fact providing local service to the customer. AT&T Use Restriction Comments at 21-23. As a result, the co-mingling ban deprives CLECs of obtaining the same network efficiencies as the ILEC enjoys because the ILEC can place any traffic on any facility to maximize efficiency.

Specifically, the ban on co-mingling is unworkable because of the way many CLECs typically provide service. *See Notice* ¶ 70 (seeking comment on the impact of the co-mingling restriction). CLECs today often provide local service using a combination of DS-1 channel terminations, multiplexing, and DS-3 transport, all purchased from interstate access tariffs. DS-1 loop facilities are typically associated with a single customer. As a result, in any given area, a CLEC such as AT&T may have some DS-1 loops that carry predominantly local traffic (for its local customers), and some that carry only special access traffic (for customers purchasing its long-distance but not its local service). The higher capacity transport and multiplexing facilities, however, almost always carry traffic from many CLEC customers, some of whom are local customers and some of whom are access-only customers. In other words, AT&T’s multiplexing and transport facilities almost always carry traffic that is subject to the use restriction and traffic that is eligible for conversion to UNEs.

For these reasons, the Commission’s ban on co-mingling of UNE and access traffic on the same facility usually makes it economically infeasible to convert to UNEs even those circuits that the Commission specifically contemplated would be eligible for such conversion. Unlike the ILEC, which is able to place any traffic on any element, the co-mingling ban requires CLECs to adopt a very inefficient network architecture if they are to attempt to use loop-transport UNEs. In order to be able to use these UNEs for local traffic, the co-mingling ban requires a CLEC to

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establish a separate, parallel multiplexing and transport arrangements to carry the UNE traffic, *see generally* WorldCom Petition for Waiver at 11-13, even when there is ample capacity on the CLEC's existing access multiplexing and transport facilities to accommodate the UNE traffic. Given the enormous costs of installing such unnecessary equipment – costs the ILEC does not have to incur – the ban on co-mingling would prevent AT&T and other CLECs from using these UNEs even if the “safe harbors” had not already done so.

Furthermore, even apart from these economic considerations, the ban on co-mingling creates an additional practical barrier to conversion. Before allowing a CLEC to convert a special access circuit to UNEs, the ILECs generally insist that the loop eligible for conversion (carrying significant local traffic) must be disconnected from the multiplexing and transport facilities (which typically carry both local and access-only traffic). That in turn requires the CLEC to get a release from all of the customers using the facility. Because of the risks of service interruption, customers are naturally hesitant to grant such a release. *See* AT&T Use Restriction Comments at 22.

In sum, the marketplace experience with use restrictions vividly demonstrates that they thwart the Commission's stated goal of promoting local competition. This further confirms that when the Commission requires new entrants to order their affairs according to a “regulatory box” rather than marketplace realities, the invariable result is increased litigation and gamesmanship, and the need for increased regulatory involvement in the marketplace. Most critically, however, the use and co-mingling restrictions have prevented CLECs from using EELs even when they attempted to use them to provide local services. This results in not only less local competition but less facilities-based competition because, as explained in greater detail below (*see infra* Part IV(A)), EELs make it possible for CLECs to aggregate traffic over a broad geographic region,

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thereby improving CLECs' opportunities to deploy switches and transmission facilities. *UNE Remand Order* ¶ 288 (EELs allow CLECs "to aggregate loops at fewer collocation locations and increase their efficiencies by transporting aggregated loops over efficient-high capacity facilities to their central switch location"). The lack of availability of EELs therefore raises CLECs' costs and requires them to operate inefficiently, limiting the geographic areas in which CLECs can deploy transmission and switch facilities and making CLECs less effective competitors in those few areas where facilities-based entry is possible.

These problems are inherent in any use restriction scheme that the Commission might enact, and they are not just specific to the EELs use restrictions. By definition, a use restriction can only be applied where there are multiple services that can be provided over a particular network element. Thus, any use restriction requires the Commission to enact complicated rules designed to determine whether a CLEC (but not the ILEC) is providing "enough" of the "right" service to entitle it to have access to the element. And any time such a line is drawn, ILECs will have both the incentive and the opportunity to deny CLECs access to a particular UNE on the grounds that the CLECs have failed to satisfy the criteria to demonstrate that they are using the UNE to provide the favored service. This in turn will force the CLECs to bear the enormous costs and delays of litigating their entitlement to the UNE – and likely to lose prospective customers in the process.

Likewise, co-mingling will always be an issue when use restrictions are imposed because any use restriction creates favored and disfavored classes of services that, by definition, can be provided over the exact same facility. Hence, a use restriction regime requires regulations that address the extent to which a carrier may provide both the favored and disfavored services

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through that element. As described above, the current use restriction rules irrationally and anticompetitively ban co-mingling altogether.

Thus, any proposal to restrict or limit the general availability of UNEs must be assessed both substantively with regard to the CLECs' impairment in particular circumstances and administratively, to determine whether that increased accuracy is worth the substantial costs that are inherent in such line drawing. This in turn requires consideration of all the relevant real-world factors that can limit CLECs' ability to construct their own networks.

As explained below, most of the specific proposed restrictions flunk this test outright. For the most part, the proposed restrictions would not identify impairment in a more "tailored" fashion but would instead require CLECs to spend scarce capital litigating their entitlement to UNEs, deny access to UNEs even when CLECs are clearly impaired without such access, and chill incentives to deploy facilities.

Service-Specific Considerations. The *Notice* asks (§§ 36-37) whether the Commission should expand on the approach it adopted in the *Supplemental Order Clarification* and conduct an unbundling analysis for individual services. Taken to its logical extreme, this would mean that for each network facility, the Commission would identify all conceivable services that could be provided over the facility, and then determine if CLECs would be impaired for each particular service without unbundled access to the network facility.

The short answer is that the Act itself forecloses this enterprise. Section 251(d)(2) requires the Commission to "determin[e] what network elements should be made available" and it expressly requires that an incumbent LEC must provide requesting carriers with unbundled access to its "network elements" if lack of access to those elements would "impair" the competitive LECs' ability to provide the services they seek to offer. "[N]etwork elements," in

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turn, are “defined by facilities or their functionalities or capabilities, and thus, cannot be defined as specific services.” *Local Competition Order* ¶ 264 (emphasis added). See also 47 U.S.C. § 153(29) (defining “network element” as “a facility or equipment used in the provision of a telecommunications service”). The § 251(d)(2) “impairment” determination must therefore be made on a network element-by-network element (not service-by-service) basis and examine whether competitive carriers would be able to compete effectively in the marketplace if they were denied access to the functionality or capability provided by a specific incumbent LEC network element.

Once the Commission determines that a carrier would be impaired without access to a particular “facility, functionality, or capability” provided by a network element, section 251(c)(3) unambiguously mandates that the network element must be available to competitive carriers for use in the provision of *any* telecommunications service that uses the element as an input. See 47 U.S.C. § 251(c)(3). See also 47 C.F.R. § 51.307(c) (requesting carrier may use an unbundled network element “to provide any telecommunications service that can be offered by means of that network element”). Indeed, the Commission has already held that “[s]ection 251(c)(3) does not impose any service-related restrictions or requirements on requesting carriers in connection with the use of unbundled elements.” *Local Competition Order* ¶ 264 (emphasis added); see also 47 C.F.R. § 51.309(a). Therefore, “incumbent LECs are required to provide access to network elements in a manner that allows requesting carriers to combine [network] elements as they choose, and that incumbent LECs may not impose restrictions upon the uses to which requesting carriers put such network elements.” *Id.* ¶ 27. The Commission has underscored this determination by observing that “there is no statutory basis upon which we could reach a different conclusion,” *id.* ¶ 356, and that “the language of section 251(c)(3), which provides that

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telecommunications carriers may purchase unbundled elements in order to provide a telecommunications service is not ambiguous,” *id.* ¶ 359.

In all events, any attempt by an incumbent LEC to limit what services a requesting carrier may provide using UNEs would constitute discriminatory access to that UNE in violation of § 251(c)(3) and Rule 51.311(a). The Commission has found that the obligation to provide “nondiscriminatory access” to a UNE “refers both to the physical or logical connection to the element and the element itself,” and that “where technically feasible, the access and unbundled network element provided by an incumbent LEC must be at least equal-in-quality to that which the incumbent LEC provides to itself.” *Local Competition Order* ¶ 312. The Commission has also made clear that the terms and conditions under which an ILEC provides a UNE “must be equal to the terms and conditions under which the incumbent LEC provisions such elements to itself.” *Id.* ¶ 315. Thus, if an ILEC makes an element available to itself for the provision of any telecommunications service, it must also make that element available to requesting carriers for the provision of any telecommunications service. Otherwise, the incumbent would not be providing the same access to requesting carriers that it is providing to itself. Accordingly, use restrictions constitute a discriminatory term of access, irrespective of the impairment analysis under § 251(d)(2).

The unwieldy regime contemplated by the *Notice* also makes no economic sense. Once the Commission determines that “impairment” exists with respect to a specific network element, that impairment necessarily exists for every service that relies on the use of that element. Thus, if loops are not practically available as a general matter from a source other than the ILEC, CLECs are, by definition, “impaired” if they do not have access to loops as unbundled network elements – regardless of whether a specific carrier uses a specific loop to provide local telephone

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service, exchange access service, private line service or any other telecommunications service that can be offered using that network element.

In all events, expanding the current use restrictions to additional services and/or elements would multiply enormously the problems discussed above that plague the Commission's existing use restrictions. Any such rules would give ILECs even greater ability to entrench their local monopolies, would require more Commission resources to police those use restrictions, and would enable fewer CLECs to navigate the patchwork of restrictions in a way that they could effectively compete against the ILECs, which have no similar restrictions on the services that they can provide over their own network elements.

Location-Specific Considerations. In contrast to use restrictions, there may be ways in which the Commission could make meaningful distinctions between areas of the country where alternatives to ILEC UNEs have emerged and areas where they have not. Such distinctions, however, would have to rely to a considerable degree on fact-finding by State commissions, because the Commission plainly lacks the resources to analyze impairment for each individual local market across the country. Part V of these Comments, *infra*, suggests some ways in which a such a process might be structured.

Facility and Capacity Considerations. In the *UNE Remand Order* (§ 322), the Commission required unbundling of "all technically feasible capacity-related services such as DS1-DS3 and OC3-OC96 [dedicated transport] service." The *Notice* asks (§ 41) whether the Commission should define UNEs by the capacity level of the transmission facility and whether the ILECs should only be required to provide unbundled access to "lower-capacity transmission facilities." *See also Notice* §§ 52, 62.

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As explained in greater detail below, CLECs are impaired without access to ILEC transport services of all capacity levels. *See infra* Part IV(A)(1). CLECs cannot economically deploy fiber transmission facilities except where they can gain economies of scale comparable to the ILEC. This is only possible in extremely limited circumstances. Most CLECs simply do not have a large enough customer base to generate sufficient demand to support deployment of alternative fiber facilities.⁸⁹ Further, as explained below, self-deployment of fiber requires access to EELs so that the CLEC can aggregate demand from a broad base of customers to a sufficiently high level so that the enormous capacity of a fiber facility is reasonably utilized. The Commission's existing use restrictions, however, have effectively made EELs unavailable for that purpose.

And even if these basic network engineering considerations could be overcome, these comments describe the numerous operational difficulties to deploying fiber. *See infra* Part IV(A)(2). Among other factors, CLECs are impaired in deploying fiber because of the costs and delays in obtaining rights-of-ways and constructing fiber facilities, and the costs and delays in obtaining necessary collocation arrangements. In large part because of these real-world difficulties, the capital markets have closed to CLECs, and the funds needed for network expansion are simply not available unless a CLEC can demonstrate that it will be able to generate promptly enough traffic on its facilities to support the investment.

In this regard, it is critical that the Commission recognize that "different" facilities are not used to provide relatively low capacity transmission service (*e.g.*, DS-3 or below) versus higher-capacity services (OC-3 and above). *See Notice* ¶ 41 ("Is there any reason to consider

⁸⁹ No CLEC would be able to construct copper facilities. *See infra* Part IV(A)(1).

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whether a facility is freestanding or whether it is merely part of a larger facility?”). Rather, all these services are provided on the *same* fiber facility. If an ILEC has deployed a fiber ring to an LSO, it can use multiplexing to provide numerous DS-3 level circuits to users of that facility, including the ILECs’ own customers, interexchange carriers (“IXCs”) that purchase exchange access, and CLECs. Accordingly, as explained in detail below, when a CLEC is considering whether to construct a fiber facility to an LSO, it will be deciding whether to deploy the same type of high capacity fiber that the ILEC already has in place. In other words, a CLEC seeking to self-deploy transmission does not simply replicate an ILEC DS-1 or DS-3 “facility” but instead must replicate a much larger pipe capable of providing multiple DS-3s. And because of the huge fixed costs of fiber deployment and scale economies generated by fiber electronics, self-deployment of fiber by a CLEC is an enormous undertaking that only makes sense in the handful of instances where a CLEC has sufficient demand to ensure that the fiber will be efficiently utilized. Any restriction that walls off all “high-capacity” facilities from unbundling would therefore impair CLECs in an overwhelming number of instances and would also make it more difficult for them to construct their own facilities where the circumstances warrant.

Customer and Business Considerations. The *Notice* seeks (§§ 42-44) comment on whether UNEs can be limited to serving only certain “classes” of customers. In particular, the *Notice* asks whether CLECs should be restricted from using UNEs to serve certain categories of business customers. Such use restrictions are clearly unwise even if they were permitted under the Act. As the ILECs’ advocacy with regard to the three line switch carve-out makes clear, even a superficially a “bright line” UNE restriction can be exploited by the ILECs in a way that prevents CLECs from gaining access to UNEs for even “permissible” uses.

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New Facilities. The *Notice* asks whether it should “exempt” from unbundling “new” facilities deployed by the ILEC, particularly high capacity loops and transport facilities. *Notice* ¶¶ 24, 50. The *Notice*, however, never spells out the logical basis that would support such a rule, nor does it even define the scope of the inquiry. To the extent that the concept is premised on the notion that unbundling obligations inhibit ILEC incentives and abilities to deploy facilities used to provide broadband services, that argument is discussed and refuted above in Part II(B). Alternatively, if the basis of the inquiry is the belief that CLECs and the ILECs are similarly situated with respect to “new” facilities because both purportedly “start from scratch” in building them, the logic of this position is fundamentally flawed. *See* Willig Dec. ¶¶ 191-95. A “new facilities” exception to unbundling would do nothing to promote the Commission’s goal of increased broadband competition or the deployment of any new network facility.

As an initial matter, the concept has no application whatsoever to the loop infrastructure investments that ILECs are making today, and will be making over the next several years. These are purely incremental to the ILECs’ existing monopoly networks and consist of modifications or upgrades to the feeder portions of existing loops (for example, installing fiber feeder for existing loops or new DLC electronics in existing loops). *Id.* ¶ 193. Thus, there is no sense in which these are “new” wires that could be equally well installed by another carrier, because they rely on the ILECs’ existing economies of scale, scope and density, which no competitor can match. To exempt such investments from unbundling requirements would defeat the core objectives of the Act.

But even if the Commission were to assume, counterfactually, that the “new” investments being contemplated by the ILECs were “fiber to the curb” systems, “the same principles would apply.” *Id.* ¶ 194. In such cases, the ILECs would take the existing fiber feeder portion of the

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loop and would extend the fiber from the existing remote terminals closer to customers' homes. Here, too, the ILEC would be replacing only a part of an existing loop, and there is no sense in which the ILEC is building a hypothetical new network.

There is also no truth to the notion that when an ILEC deploys a new facility, even a new high capacity facility, it is acting "just like a CLEC" and, therefore, CLECs would not be impaired without such unbundling. *Id.* ¶ 195. As explained below in Part IV(A)(1), incumbency provides the ILECs with enormous advantages over new entrants. In particular, an ILEC has a huge customer base, a ubiquitous network, and the ability to use its existing monopoly base of assets to generate construction funds. Together, these give the ILEC both substantially greater scale efficiencies and increased access to capital. In contrast, CLECs must overcome both the operational problems of convincing customers to switch service and the practical hurdles inherent in deploying facilities at a cost that permits the CLEC to compete with the ILEC. Given this, there will be many instances where it will be economic for an ILEC to deploy new facilities, but where CLECs simply will not be able to do so. Moreover, it is substantially easier for the ILECs, given their captive customer base, to raise capital for building local networks.⁹⁰ As a result, if the Commission were to adopt a "new facilities" carve-out for UNEs, competitors using UNEs would be relegated to accessing obsolete and lower-quality network facilities than those

⁹⁰ In particular, the ILECs enjoy strong bond ratings from ratings firms. SBC's corporate debt rating is AA-, while Verizon and SBC both have A+ ratings. *See generally* www.standardandpoors.com. CLECs, on the other hand, have been given unfavorable ratings that dramatically increase their borrowing costs. For example, Time Warner Telecom's corporate credit rating was recently downgraded to B+ (and is expected to be lowered again), McLeod's rating has been lowered to D, and XO Communications' rating has been lowered to D. *Id.* Allegiance and Focal have had their corporate credit rating lowered to B- and placed on "CreditWatch" to reflect the fact that they are unlikely to meet existing bond covenants. *Id.*

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used by the incumbents. This, in turn, would institutionalize discriminatory access in violation of the Act and sound public policy and make it even more difficult for CLECs to win customers.

For example, even if an ILEC were proposing to string entirely new fiber from its central office to multiple homes in an existing area, it would not be “acting like a CLEC.” Willig Dec. ¶ 195. For starters, the ILEC already has the customers in place. Thus, the ILEC can continue to provide service to those customers with the “old” facilities, build new facilities, and then switch the customers over. In contrast, because of the enormous fixed and sunk costs of loops, a CLEC cannot simply build a loop before it has a customer to use that loop. *See UNE Remand Order* ¶ 182 (“[W]ithout access to unbundled loops, competitive LECs would be required to sink a large initial investment in loop facilities before they had a customer base large enough to justify such an expenditure.”); *see also infra* Part IV(A)(1). Instead, the CLEC must first win customers and then build facilities to those customers. However, as explained below, most customers are unwilling to order service and then wait months for it to be provided.

That analysis also assumes, of course, that the carrier can actually build a facility to the customer. The ILEC would install the fiber as a “overlay” that rides on top of its existing loops. It would use its existing trenches, structures, conduits and rights of way. By contrast, the CLEC would have to incur those fixed costs and acquire rights of way. In the real world, these are huge hurdles. Many CLECs have faced significant difficulties in securing the necessary rights of way from municipalities and building owners. *Fea-Taggart Use Restriction Dec.* ¶¶ 12, 16.

Finally, a “new facility” exclusion would give the ILECs yet another opportunity to exploit ambiguity as to what exactly constitutes a “new” facility. As noted, when ILECs deploy “new” facilities they do not ordinarily replace one facility for another wholesale; rather, they upgrade parts of the facility. That means, of course, that the ILECs would have strong incentives

to claim that every “upgrade,” even upgrades that are driven by maintenance and capital efficiencies for narrowband services,⁹¹ constitutes a “new” facility. Not only would this force CLECs to bear the costs and delays associated with litigating their entitlement to “old” facilities, but it would also mean that, to the extent the ILECs are successful in such claims, it would undermine the very purpose of the “new” facilities rule. The (mistaken) basis for a “new” facility exception is that unbundled access to “new” facilities should be denied in order to provide ILECs with incentive to build entirely new facilities. To the extent that the exception applies to facilities that are simply being upgraded, rather than truly new facilities, the rule would prevent CLECs from obtaining bottleneck ILEC facilities as UNEs without producing the desired “new” facilities.

Triggers for Changes in UNE Availability. Finally, the *Notice* seeks comment (§§ 45-46) on the use of “triggers” for determining whether a UNE should no longer be made available. Implicit in the various triggers that have been proposed to date is the notion that proxies can be used to determine the availability of UNEs because a rigorous, comprehensive assessment of the critical factual issue – whether network facilities are available “outside the incumbent’s network, including self-provisioning by a requesting carrier or acquiring an alternative from a third party-supplier,” *UNE Remand Order* ¶ 51 – is administratively burdensome. Consequently, use of trigger-proxies is contrary to the *Notice*’s stated purpose to adopt a more “sophisticated, refined unbundling analysis,” *Notice* ¶ 34, and to rely primarily on “evidence of actual marketplace conditions,” *id.* ¶ 17.

⁹¹ See *supra* Part II(B) (discussing statements by SBC showing that Project Pronto was justified on grounds of maintenance cost savings).

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To be sure, a trigger that accurately reflects all of the real world conditions relevant to CLEC impairment, *see Notice* ¶ 8 (cataloging relevant factors), could properly be relied upon to determine whether a particular element should be unbundled. But as demonstrated above, a careful analysis of all the factors relevant to an impairment analysis almost never can be reduced to the mechanical application of a bright-line metric.

The triggers discussed in the *Notice* vividly illustrate this point. Those triggers are grossly over-inclusive and would eliminate unbundling in situations where CLECs would clearly be impaired without access to UNEs. For example, the *Notice* notes (¶ 45) that “one party has suggested that, if certain conditions are met [i.e., non-discriminatory access to loops], competitive LECs could commit to serving no more than 75 percent of their customers’ access lines using UNE-P after 12 months of adopting such a rule, with a goal of serving no more than 50 percent of their customers’ access lines with UNE-P.” But even if ILECs were willing to solve the DLC and hot cut problems and provision loops upon reasonable terms, that would not by itself mean that CLECs would never be impaired without access to ILEC transport and switching UNEs. As explained below, CLECs face significant, real-world obstacles in attempting to self-deploy transmission and switching facilities and these facilities generally cannot be obtained from anyone other than the incumbent. Certainly, there is no logical reason to believe that if unbundled loops were made available, the obstacles that prevent many CLECs from deploying switches and fiber transport would suddenly disappear for most of their customers.

Similarly, another party has proposed that unbundled switching be “de-listed” for business customers if at least four CLECs have deployed switches in an MSA (and where the incumbent has made EELs available). *Notice* ¶ 46. Again, this trigger is no substitute for a well-

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reasoned impairment analysis. In several MSAs, AT&T offers “digital link” local service to customers using AT&T’s traditional long distance (class 4E) switches. However, because of technical limitations, AT&T can only offer service to customers that buy service at the T-1 level or above. Thus, AT&T’s switch would count for purposes of this trigger, but the deployment of this switch would say nothing about whether CLECs are impaired in their ability to provide service to customers that use voice grade loops.

Further, the mere availability of EELs is not sufficient to serve many business customers. Many business customers are served by copper loops that terminate at an ILEC switch. In order for a CLEC to reach these customers using an EEL (*i.e.*, a loop-transport combination), the loop would need to be hot cut to the transport facility. But as explained *infra* in Part IV(C)(1)(c), the manual hot cut process is insufficient to permit commercially viable service.

In all events, the fact that four CLECs may have deployed switches does not definitively answer the question as to whether other CLECs could enter *de novo* or whether any of the four CLECs would or could sell switching at competitive terms and conditions to others. A proper unbundling analysis must recognize that such deployment of switches by CLECs does not mean that this deployment was economic and that entry is sustainable over the long term. As the Commission recognized in the *UNE Remand Order*, many of the CLECs that initially deployed switches were “not generating net income” and that it was “too early to know whether self-provisioning is economically viable in the long run.” *UNE Remand Order* ¶ 256. In fact, in many cases, it was not. Recent experience has confirmed that many of the network investments made by CLECs were too costly to allow CLECs to profitably provide service in competition with the ILEC, at least under existing rules and current market conditions. *See also id.* (mere presence of switches does not mean that CLECs are not impaired).

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Finally, the Commission's experience with triggers in the context of pricing flexibility for interstate access services confirms that crude trigger-proxies are no substitute for actual analysis of the relevant factors. Under the Commission's pricing flexibility "Phase II" triggers, an ILEC can obtain relief from formal rate regulation (including price caps) for its special access and dedicated transport services in an MSA if the incumbent can show that at least one competitor has established a collocation in a certain percentage of the wire centers within that MSA. *See Pricing Flexibility Order* ¶¶ 141-44. This trigger-proxy is grossly over-inclusive, because a single collocation is not a sufficient indicator that competitors are placing competitive pressure on the incumbent's rates, even within that wire center. And the trigger results in pricing flexibility throughout an MSA, even when there are no alternatives at all in a large portion of the MSA.

The results have been predictable. Since mid-2000, Verizon, SBC, BellSouth, and others have received Phase II pricing flexibility in numerous MSAs for services representing over \$2.5 billion in annual revenues. Not surprisingly, Verizon and BellSouth recently *raised* their special access rates in all of the MSAs in which they have obtained Phase II pricing flexibility.⁹² Indeed, Verizon's special access rates are now higher in the areas where it has received pricing flexibility than they are in other areas where they remain under price caps.⁹³

Thus, the Commission's overly generous pricing flexibility triggers have resulted in premature deregulation that has been harmful to both local and access competition. The

⁹² *See* BellSouth Transmittal No. 608 (effective November 1, 2001); Verizon Transmittal No. 134 (effective January 5, 2002).

⁹³ *See* Verizon Tariff FCC No. 1, § 7.5.16.

incumbents' rate increases to above-competitive levels impose dead weight losses on society and harm the economy, because they impose real costs on access purchasers and the industries they represent. Equally important, these rate increases harm local competition as well, because the Commission's use restrictions on EELs force new entrants to rely on special access services in order to provide local service. Thus, the incumbents' rate increases have the dual effects of raising their CLEC rivals' costs and further thwarting the development of both local and access competition. This clearly demonstrates that the Commission should not rely on triggers to de-list UNEs in lieu of an actual analysis of the real-world factors relevant to impairment.

IV. SPECIFIC NETWORK ELEMENTS.

This section applies the "impair" standard to particular network elements.

A. The Commission Should Continue To Require Unbundled Access To Transmission Facilities (Loops and Transport).

There is no question that CLECs would be severely impaired if loops or transport were removed from the minimum national list of UNEs. *See Notice ¶¶ 48, 61.* Given the massive scale of the ILECs' networks, this is hardly surprising. Protected by state franchising laws and funded by captive ratepayers, the ILECs have deployed approximately 220 million local loops, and a ubiquitous transport network of 362,000 miles of fiber that that connects over 14,000 LSOs. *Universal Service Monitoring Report*, Tables 10.1 & 10.2 (October 2001). The notion that any individual CLEC, let alone an "average" CLEC, could economically replicate these transmission facilities simply defies reality. In fact, the evidence shows that all CLECs in the aggregate have been able to self-deploy only a small fraction of the transmission facilities used by the ILECs; thus, CLECs remain highly dependent upon ILEC transmission facilities in order to serve their customers.

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The *Notice* nonetheless suggests (§§ 52, 62) that there is a “prevalence” of alternative fiber that might provide ready substitutes for access to some portion of the ILEC transmission network (*e.g.*, dedicated, high-capacity transport). That presumption gravely misperceives marketplace realities. Rather than demonstrate the ready availability of alternative supply, the presence of alternative fiber along some routes merely confirms that CLECs will build their own transmission facilities, rather than rely on the ILECs’ UNEs, wherever and whenever such facilities are economically and practically feasible. But such construction is simply not feasible in the overwhelming majority of circumstances, in which CLECs must either rely on the ILECs’ facilities or decline to offer service. Thus, even a “more granular” unbundling analysis confirms that CLECs are impaired without access to “all technically feasible capacity levels of unbundled transport (*i.e.*, DS-1, DS-3, OC-3).” *Notice* ¶ 62.

Indeed, the Commission conducted a “granular” analysis in the *UNE Remand Order* to determine whether CLECs would be impaired without access to ILEC high capacity transmission facilities. Based on substantial record evidence, the Commission concluded that these high capacity facilities were not available outside incumbent networks for several reasons: (i) the enormous fixed costs of deploying loops and transport facilities; (ii) the requirement that CLECs incur the costs of building transmission facilities before they have a customer base sufficient to justify the investment; and (iii) delays and costs associated with obtaining necessary rights of way and collocation arrangements. *See UNE Remand Order* §§ 176-78, 182-84, 187, 321-324, 334-60. None of these key market realities has changed at all since the Commission issued the *UNE Remand Order* in late 1999. Rather, the only significant “changed circumstance” since 1999 is that the CLEC industry has collapsed and capital markets are generally unavailable to fund new construction.

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Moreover, the centerpiece of the ILECs' argument to the contrary – *i.e.*, their oft-repeated claim that CLECs have captured 36% of the special access market – has now conclusively been shown to be false. The Commission's own recently released data show that CLECs have captured only 12% of that market, and that figure includes both facilities-based competition *and* resale of the incumbents' special access services.

There is thus no reasonable doubt that the Commission should continue the national rule requiring ILECs to provide unbundled access to all types and capacities of the loop and transport elements. As shown below, in the vast majority of cases, CLECs have no alternatives to ILEC facilities and an individual CLEC's attempt to deploy self-provisioned transmission facilities – even “high capacity” fiber facilities – is not economically supportable, even if the numerous practical obstacles to such deployment did not exist. Moreover, even in the limited circumstances where building such facilities could theoretically be justified, practical considerations such as the need to obtain rights of way and collocation still “impair” new entrants' ability to use their own facilities to offer service. These fundamental engineering and economic considerations are confirmed by verified record evidence that demonstrates the limited extent to which CLECs have been able to deploy high capacity transmission facilities.

1. Basic Economic and Technological Considerations Make it Impracticable for CLECs to Self-Provide Loop and Dedicated Transport Facilities Except in Very Limited Circumstances.

A reasonable assessment of whether ILEC loop and transport facilities meet the “impairment” standard must account for the technical and economic properties of the modern telephone network that substantially constrain CLECs' ability to raise the funds necessary to build such a network. CLEC deployment of alternative transmission facilities is rarely justified for three interrelated reasons.

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First, as the *Notice* recognizes (§ 62), a transmission facility connects two specific points and only those points. Thus, when considering whether to build a transmission facility, the threshold question for a carrier is whether routing the service demand between two specific points justifies the costs of connecting those points. Because facility construction is generally characterized by huge fixed costs for the initial capacity but much lower costs for adding additional capacity, the CLEC must reasonably anticipate there will be substantial *new* demand between the two points before it can economically justify such construction. *See UNE Remand Order* § 183.

These basic principles apply not only to “prohibitively expensive” dedicated local loops, *id.*, but also to transport facilities as well. For example, the Commission found that “the direct equipment costs of purchasing interoffice transport equipment exceeds \$300 per line, and . . . the costs of constructing alternative transport facilities . . . are between \$200,000 - \$300,000 per mile in densely populated areas.” *Id.* § 356. Where collocation is used to access ILEC loops – as will almost always be the case – CLECs incur up-front charges ranging between \$15,000 to \$500,000. *Id.* § 357.⁹⁴ *See also* Leshner-Frontera Dec. § 46 (estimating that AT&T must spend **[proprietary begin] ***** [proprietary end]** to establish a collocation site). And critically, a CLEC must incur all of these costs *before* it provides *any* service, and these costs do not vary considerably based on the number of customers that may be served by a transmission facility.

In some circumstances – for example, transmission between the premises of a residential customer and a switch – there will never be sufficient demand to justify building a new facility.

⁹⁴ Not only must CLECs incur large up-front costs, they must also pay ILECs significant per-month charges for the collocation arrangements necessary to self-deploy transmission facilities. *See* Leshner-Frontera Dec. § 46.

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Moreover, even in the limited circumstances where there is potentially sufficient demand to support construction of a new loop facility – as can sometimes be the case with large business customers – it is extremely difficult for a competitive carrier to know whether such demand will actually materialize before it actually has facilities in place. The timing in such cases is essential, because when customers are choosing a carrier, they typically want their service to begin immediately and are not willing to wait while facilities are built. But without a customer base, a CLEC lacks the ability to generate substantial revenues to offset the sizeable fixed costs of such construction.

Accordingly, even under the best of circumstances, competitive LECs face a classic “chicken or egg” dilemma. Although this problem is not necessarily unique to local telecommunications services, it is particularly severe for CLECs in light of:

- (1) the enormous costs of the initial capital investment;
- (2) the fact that loop transmission facilities are often dedicated to a single customer, so that the significant costs of deploying those transmission facilities will be stranded if the planned-for customer never materializes, ceases operation or terminates service;
- (3) the long gap between the time the costs of deploying facilities are incurred and the time they begin to generate revenues;
- (4) the fact that almost all current customers are served by an incumbent provider and therefore must be persuaded to switch carriers; and
- (5) the enormous technical difficulties a CLEC faces in switching a customer from the incumbent’s facilities to its own facilities.

For all of these reasons, each of which has been fully explained and supported by facts from AT&T and other CLECs in prior filings, the Commission correctly concluded that “it would be unreasonable to expect a competitive LEC to invest the large sums of capital needed to build ubiquitous loop plant,” and “to incur [the] significant direct and other costs” incurred when

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self-provisioning dedicated transport – “including the costs of fiber, the costs of deploying fiber in public rights of way, trenching and the costs of purchasing and collocating the necessary transmission equipment” – “before the competitive LEC has established a substantial and secure customer base.” *UNE Remand Order* ¶¶ 183, 356.

Second, the high fixed costs and low marginal costs of local transmission facilities create huge economies of scale for the incumbents that CLECs can rarely expect to achieve. *See generally* Clarke Dec. ¶¶ 29-38 (measuring the economies of scale in local telephone network). Simply stated, the greater the total level of demand a carrier serves, the lower its costs to serve each unit of demand. This is particularly true for fiber facilities (which, as explained below, are the only type of wireline facility that any new entrant carrier would reasonably deploy). Because ILECs already have substantial demand accessible in their LSOs and they also have in-place “ubiquitous network[s]” that have been “financed over the years by the returns on investment under rate-of-return regulation,” the ILECs can serve “customers at a much lower incremental cost than a facilities-based entrant that must install its own network components.” *Michigan 271 Order* ¶ 12; *see also ILEC Broadband Notice* ¶ 29 (“High initial investment, economies of scale, access to customers, and the monopoly legacy of the telecommunications networks all contribute to incumbent LEC market power in the local exchange and exchange access market”).

Thus, even a hypothetical CLEC with a far larger market shares than obtained by any CLEC to date would still have substantially higher costs than the ILEC. Clarke Dec. ¶¶ 29-38.⁹⁵ As Dr. Clarke demonstrates in his accompanying Declaration, even a CLEC that achieves an

⁹⁵ Dr. Clarke also demonstrates that there are substantial economies of scope in local telephone networks and that this too impairs CLECs in their ability to self-deploy facilities in competition with ILECs. Clarke Dec. ¶ 32.

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implausibly high 30% market share in every “cluster” served by an ILEC in a state will have per line transmission cost investments that can exceed those of the incumbent by 70% (for loops) and 199% (for transport). *Id.* ¶ 30.

Third, these economies of scale and the existence of a “price umbrella” created by supracompetitive ILEC retail prices make it exceedingly difficult for CLECs to determine accurately where facilities construction is economic. In particular, these conditions may make it difficult to justify capital investment even in areas where the current “market prices” for telecommunications services would, *if maintained*, produce a sufficient return. Given the combination of its entrenched status and scale economies, the ILEC will virtually always have the lion’s share of the market demand. Further, for the reasons discussed above, the ILEC will have lower costs than new entrants, both with regard to the average costs of satisfying a unit of demand and the marginal costs of constructing capacity to satisfy new demand. *See also UNE Remand Order* ¶ 183 (“Because of the size of their networks, incumbent LECs enjoy advantages of scope that competitors *cannot* replicate”) (emphasis added).

This consideration will often be dispositive. In deciding whether it would make economic sense to build new facilities, a CLEC (and its potential investors) must carefully evaluate both the cost structure and potential revenue streams it would face if it builds competitive facilities. Thus, it must compare both its projected costs and its anticipated retail prices against those of the market leader. In both cases, the primary standard for comparison is the ILEC.

For the reasons discussed above, a CLEC must almost always expect that it will have higher unit costs than the incumbent. Indeed, if the CLEC is considering construction of new facilities along an existing ILEC fiber route, it must face the reality that the ILEC can almost

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always create the very same capacity by incurring only the *incremental* cost of adding electronics to its existing outside plant. The amount of capacity that a fiber strand can provide is determined largely by the associated electronics used on either end of the fiber. The vast majority of the cost of transmission is in deploying the fiber; once the fiber is deployed, the same facilities can be operated at a DS-1, DS-3, OC-48 or higher level simply by upgrading the electronics at relatively low incremental costs. A carrier's per-unit costs, however, decrease dramatically as the capacity is increased.⁹⁶ This obviously creates huge economic advantages for the ILEC. For example, ILECs typically operate their transport facilities at an OC-48 level (or above), and therefore a CLEC deploying its own transport could not hope to match the ILEC's *per-unit* costs until it had enough traffic to justify operating such facilities at the same level as the incumbent.

The fact that the incumbent can upgrade its capacity at low incremental cost also creates a huge *timing* advantage for the incumbent, because, unlike the CLEC, it will not face pre-construction costs and delays resulting from the need to obtain rights of way and municipal licenses/permits, as well as pre-construction planning and engineering. Nor will the ILEC incur the same delays caused by the actual construction work itself. *See* Fea-Taggart Use Restriction Dec. ¶¶ 9-20.

Moreover, the CLEC cannot expect to base its long-term revenue projections on the supracompetitive retail rates the ILEC can currently charge because of its existing market power. At any time, the ILEC can collapse the existing price umbrella and drive prices to a point between its own unit cost and that of the competitive LEC. When that happens, if the CLEC's business plan required it to charge rates equal to the ILEC's previous, higher retail prices, the

⁹⁶ *See* Riolo NGDLC Dec. ¶¶ 47, 82.

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competitive LEC will be driven from the market. And although the ILEC will make less money than it did when it collected full monopoly rents, it needs to maintain the lower prices only until the CLEC exits the market.

Because of these three fundamental considerations, there are only very limited situations in which it makes economic sense for a CLEC to deploy competitive loop or transport facilities. Unlike an ILEC, a CLEC does not begin with a huge base of customers already connected to its switch. Thus, deploying such facilities is only viable where the new entrant can aggregate traffic from a diversity of endpoints in order to achieve scale economies that at least approximate those of the incumbent. There are, however, significant technical and economic limitations on a CLEC's ability to aggregate demand for either loops or transport facilities.

Loops. Although fiber optic technology permits much higher degrees of multiplexing (and therefore offers much larger transmission capacity than copper transmission facilities), economic realities dictate the use of copper pairs for last-mile loops in most situations. This is because the optical transmission electronics used in fiber-based systems require much greater initial costs and provide transmission capacity that is orders of magnitude greater than that of a copper facility.⁹⁷ An individual fiber strand can typically provide OC-48 or greater levels of bandwidth, and each cable contains as many as 256 individual fiber strands.⁹⁸ Accordingly, because loops are dedicated to a particular customer, fiber has an uneconomically high cost per unit of transmission carried, unless the customer has enormous transmission requirements for its

⁹⁷ Services requiring a transmission rate in excess of 1.5 Mbps must employ a fiber or radio based connection.

⁹⁸ OC-48 is the equivalent of 48 DS-3s, which in turn is the equivalent of 32,256 voice grade circuits.